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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,887	02/11/2004	Colin Temple	HES 2003-IP-009967U1P1	3325
28857	7590	01/05/2010	EXAMINER	
CRAIG W. RODDY HALLIBURTON ENERGY SERVICES P.O. BOX 1431 DUNCAN, OK 73536-0440			FIGUEROA, JOHN J	
			ART UNIT	PAPER NUMBER
			1796	
			MAIL DATE	DELIVERY MODE
			01/05/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/776,887

**Applicant(s)**

TEMPLE ET AL.

**Examiner**

JOHN J. FIGUEROA

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims pending in the application are 1,3-8,10-19,21-25,27,28,30,32-36,39-42,44,56,59-62,65-73,82,83,85-90,92-95,97-100 and 103-111.

Continuation of Disposition of Claims: Claims rejected are 1, 3-8, 10-19, 21-25, 27, 28, 30, 32-36, 39-42, 44, 56, 59-62, 65-73, 82, 83, 85-90, 92-95, 97-100 and 103-111.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date: 7/13/2009; 10/14/2009; 10/28/2009.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The 35 U.S.C. 102 rejection of claims 82 and 83 as anticipated by USPN 7,348,365 to Lee (hereinafter 'Lee') previously made of record in items 3 and 12 on pages 2 and 8, respectively, of the Office Action dated May 11, 2009 (hereinafter 'OA') has been withdrawn.
2. The 35 U.S.C. 102(e) rejection of claims 56, 62, 65-73, 82 and 83 as anticipated by USPN 7,276,249 B2 to Ryde et al. (hereinafter 'Ryde') has been maintained for reasons previously made of record in items 4 and 13 on pages 2 and 9, respectively, of OA. This rejection over claims 95, 100 and 103-111 has been withdrawn in view of Applicant's amendment to independent claim 95 submitted with the response to OA filed September 11, 2009 (hereinafter 'Response').
3. The 35 U.S.C. 103(a) rejection of claims 1, 3, 7, 8, 10-19, 24, 25, 27, 28, 30, 32, 36, 39-42, 56, 62, 65-73, 82, 83, 86, 90, 92-95, 100 and 103-111 as unpatentable over USPN 4,792,412 to Heilweil, II et al. ( hereinafter 'Heilweil'412') in view of either USPN 3,252,904 to Carpenter (hereinafter 'Carpenter') or U.S. Patent Application Publication No. 2004/0106525 A1 to Willberg et al. (hereinafter 'Willberg') has been maintained for reasons previously made of record in item 8 on page 3 of OA.
4. The 35 U.S.C. 103(a) rejection of claims 4-6, 14, 21-23, 33-35, 40, 56, 59-62, 65-73, 85, 87-89, 93, 97-99, 107 and 110 as unpatentable over Heilweil'412' in view of

Carpenter or Willberg, and further in view of Stowe, has been maintained for reasons previously made of record in item 9 on page 6 of OA.

***Response to Arguments***

***The 35 U.S.C. 102 Rejection over Lee (items 3 and 8 of OA)***

5. Applicant's arguments filed in the response to OA filed September 11, 2009 (hereinafter 'Response') regarding the captioned 35 U.S.C. 102 rejection of claims 82 and 83 as anticipated by Lee have been fully considered and deemed persuasive in that Lee does not expressly disclose the polyvinyl pyrrolidone ("PVP") to be crosslinked.

Accordingly, the captioned rejection has been withdrawn.

***The 35 U.S.C. 102 Rejection over Ryde (items 4 and 13 of OA)***

6. Applicant's arguments filed regarding the 35 U.S.C. 102(e) rejection of claims 56, 62, 65-73, 82 and 83 as anticipated by Ryde have been fully considered but deemed unpersuasive. Examiner acknowledges that Applicant is correct in asserting that the instant rejection is a 35 U.S.C. 102(e) rejection in view of the effective filing date of Ryde antedating that of the present application. This rejection over claim 95, and claims 100 and 103-111 that depend therefrom, have been withdrawn in view of Applicant's amendment to independent claim 95 in Response limiting the fluid composition to contain rubber latex particles.

Examiner notes that the instantly rejected claims are drawn to a fluid composition and are not drawn to process or a method of using.

Applicant's arguments in Response regarding Ryde not disclosing its composition comprising a bridging agent are not persuasive. As discussed in prior Office Actions, Ryde discloses a nanoparticulate composition comprising fenofibrate; a surface stabilizer adsorbed on the surface of the drug and further excipients, wherein the nanoparticulate composition can further contain water and/or an aqueous salt solution as a solvent, such as potassium chloride ("bridging agent"; col. 12, lines 51-58; col. 22, lines 20-37); stabilizers, such as biopolymers and cellulosic/polysaccharide derivatives; a lubricant; crosslinked PVP as a disintegrant (col. 19, lines 33-34) and a carbonate or bicarbonate effervescent agent ("weighting agent" and/or "bridging agents") in col. 19, lines 36-47. It is well known in the oil field art that carbonates and salts are among the most commonly know bridging agents within drilling fluids. (See, e.g., col. 4, lines 29-54 of USPN 6,131,661 A to Conner et al.; col. 5, lines 9-15; col. 7, lines 46-64; Table on col. 7 of USPN 5,616,541 to Dobson, Jr. et al.; col. 2, line 47 to col. 3, line 10 of USPN 4,186,803 to Mondshine, all disclosing salts and carbonates as known bridging agents) Hence, Ryde is disclosing a composition encompassed by that recited in the present claims that comprises water; salt (bridging agent); nanoparticulate crosslinked PVP particles and carbonates (bridging agent/weighting agent).

In response to Applicant's arguments that these carbonates/salts disclosed in Ryde cannot act as bridging agents when the fluid is used in an oil field application, as discussed above previously in item 13 on page 9 of OA, this is a future intended use of the claimed composition and its components. If the prior art composition is capable of performing the intended use, then it meets the claim. Moreover, there are no limitations

Art Unit: 1796

in the presently rejected claims limiting the particle size/weight of the "bridging agents". Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Consequently, the carbonates/salts recited in Ryde for its composition meets the "bridging agent" limitation of the claims.

In response to Applicant's arguments that Ryde allegedly does not expressly disclose the composition containing a "scale inhibitor" (as recited in claims 82 and 83), as discussed previously, PVP is a well-known shale inhibitor in oil-field applications.

Thus, the present claims, as amended, remain anticipated by Ryde.

*The 35 U.S.C. 103 Rejection over Heilwell'412 in view of Carpenter or Willberg (item 8 of OA)*

7. Applicant's arguments filed in Response traversing the captioned 35 U.S.C. 103 rejection have been fully considered but deemed unpersuasive.

Applicant's arguments alleging Carpenter not teaching a correlation between particle size and fluid-loss control in oil-field applications are found not persuasive.

As discussed in item 8 of OA, Heilwell'412 discloses an aqueous brine fluid, for use in, e.g., drilling and completion operations, containing PVP or copolymer thereof, wherein PVP (shale inhibitor) can act to increase the viscosity of the fluid at elevated temperatures, wherein the salt/brine can be calcium bromide or calcium chloride (flocculant and weighting agent); wherein the drilling fluid further can further contain surfactants and fluid control solids/agents, such as clay (also weighting agent). (Col. 7,

Art Unit: 1796

lines 53-61; claim 11) and wherein the suspended salt in the saturated brine and/or the fluid loss control solid/agent can serve as a "bridging agent". (See. e.g., col. 5, lines 13-35) Clay is well known in the chemical arts to be a "hydrated aluminum silicate", that is, a silicate compound.

As previously discussed in item 8 of OA, Carpenter teaches adding crosslinked PVP to a fluid composition for use in an oil field application (such as in a method for acidizing, *or in a method of hydraulic fracturing* a well bore), wherein the fluid composition comprises sized crosslinked PVP particles that can swell in brine. As discussed in item 8 of OA, Carpenter further teaches that the rate of swelling activity (fluid-loss control rheology) of the crosslinked PVP particles in brine/water can be adjusted by particle size to attain a preferred rate of fluid loss control in the subterranean formation application. (Col. 8, lines 26-61 and Table V depicting data showing low fluid-loss properties for crosslinked-PVP particles that swell in brine compositions.) Fluid loss is well known to be a common concern in drilling/treatment operations, such as *hydraulic fracturing*. Both *Heilweil'412* (*primary reference*) and *Carpenter* address this issue of fluid loss/particle size in drilling/treatment operations.

Particularly, Applicant's arguments regarding Carpenter not teaching nanoparticles are misdirectional. It has not been argued in the instant rejection that Carpenter teaches PVP in the form of nanoparticles. (Otherwise, Carpenter could be a 102 anticipatory reference) Instead, it had been argued that it would have been obvious to one in the art to use crosslinkable PVP particles as the PVP component in Heilweil'412's fluid composition/method to be able to alter the particle size to a preferred



level and obtain an enhanced method of drilling/treatment for a desired oil field application, such as providing crosslinked PVP in a preferred size of less than 1000 nm.

In response to Applicant's arguments that Heilweil'412's method is drawn to different oil field method/compositions as is Carpenter's method of use, as discussed above, Heilweil'412 is drawn to methods of drilling whereas Carpenter is drawn to acidizing **and** hydraulic fracturing process, the latter which can be part of a drilling operation. Thus, the compositions in Carpenter need not actually contain acid when used in a fracturing/drilling operation. Nevertheless, both Heilweil'412 and Carpenter address the issue of fluid loss control in oil field methods comprising providing a fluid composition containing PVP. It would have been within the purview of one in the art to look to Carpenter's teachings to choose crosslinked PVP for the PVP component in Heilweil'412 and adjust its particle size to attain an enhanced, desired level of fluid-loss control in Heilweil'412's method.

In regards to the Willberg reference, this reference was cited as a teaching showing that, similar to the teachings in Carpenter, particle sizes of individual components of a fluid treatment composition may be the same or different and are chosen/determined upon the size of the subterranean formation pore size/surface and the particular oil field application upon which they are to be deposited. As discussed in item 8 of OA, Willberg teaches that criteria for, and methods of, choosing optimal particle sizes or particle size distributions for **conventional** fluid loss additives *and* filter cake components are well known in the oil field art.

Therefore, as stated in item 8 of OA, one skilled in the art would choose crosslinked PVP (of a preferred/optimal particle size, such as less than about 1000 nm) based upon the formation surface to be treated for the PVP component of the aqueous drilling fluid in Heilweil'412's method of drilling to be able to manipulate (lower) the degree of fluid-loss control and attain a resultant method of drilling that is more efficient as taught by Carpenter or Willberg.

Thus the instant claims are unpatentable over Heilweil'412 and either Carpenter or Willberg.

*The 35 U.S.C. 103 Rejection over Heilweil'412, Carpenter or Willberg, and Stowe (item 9 of OA)*

8. Applicant's arguments filed in Response traversing the captioned 35 U.S.C. 103 rejection have been fully considered but deemed unpersuasive.

Applicant's sole arguments in Response traversing the instant rejection are drawn to that Stowe allegedly does not resolve the deficiencies of the 103 rejection over Heilweil'412 and Carpenter or Willberg. However, these alleged deficiencies were addressed above in the immediately preceding paragraph of the instant action and were found unpersuasive.

Thus the instant claims are unpatentable over Heilweil'412, Stowe and either Carpenter or Willberg.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN J. FIGUEROA whose telephone number is (571)272-8916. The examiner can normally be reached on Monday-Thursday 8:00-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James J. Seidleck/

Supervisory Patent Examiner, Art Unit 1796

JJF/JJS